Understanding your Systems with
Bytesize Architecture Sessions

LAST Conf - Melbourne

November 2025

Andrea Magnorsky
www.roundcrisis.com

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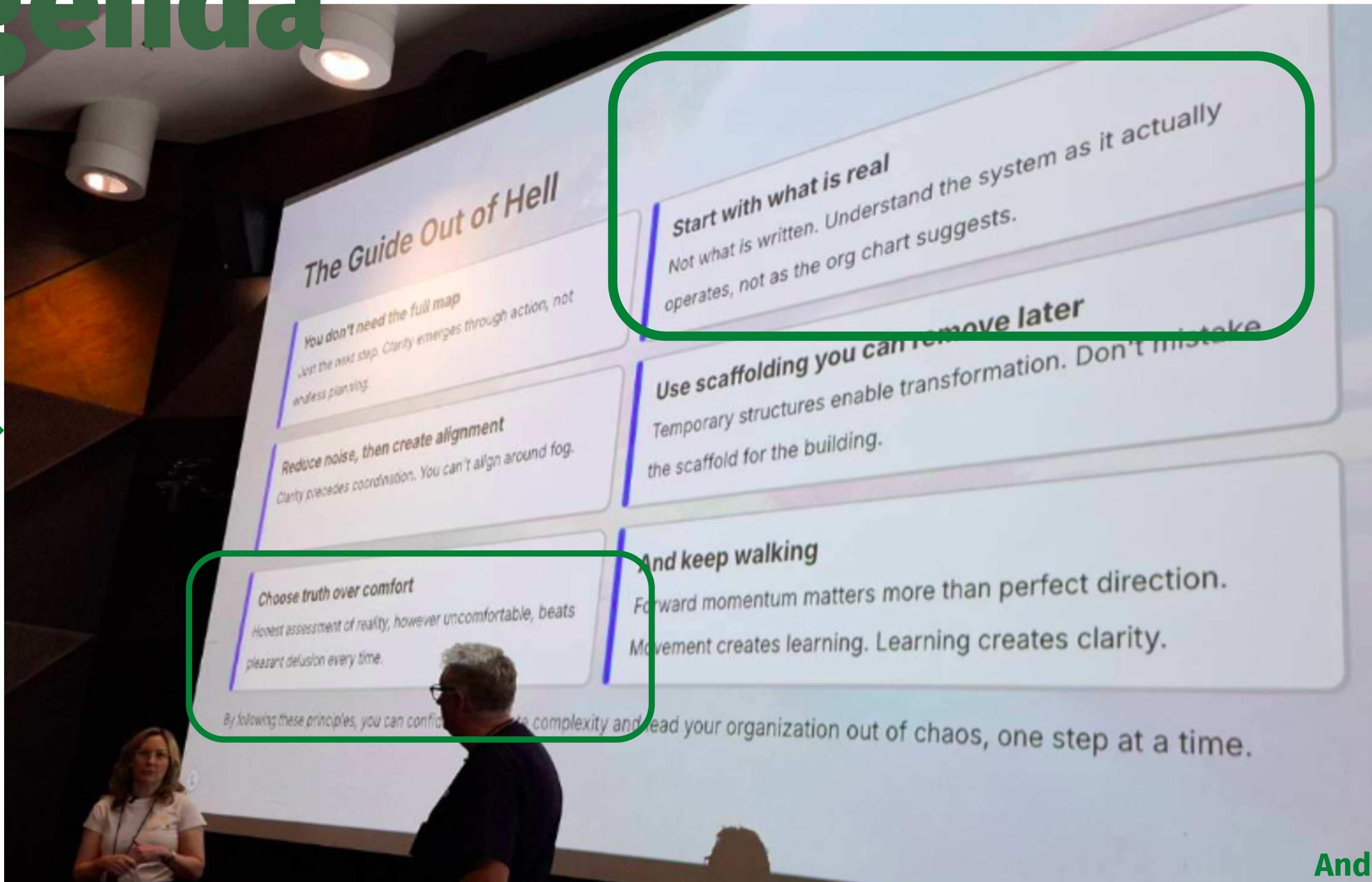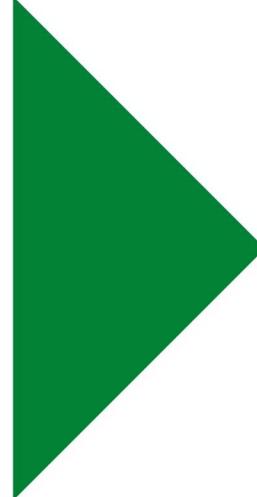
Agenda

This workshop is about learning to work together to understand our systems better by creating visual models

- Intro
- Bytesize Session – Musicats
- Overview of C4
- Bytesize Session – Context Diagram
- Q&A

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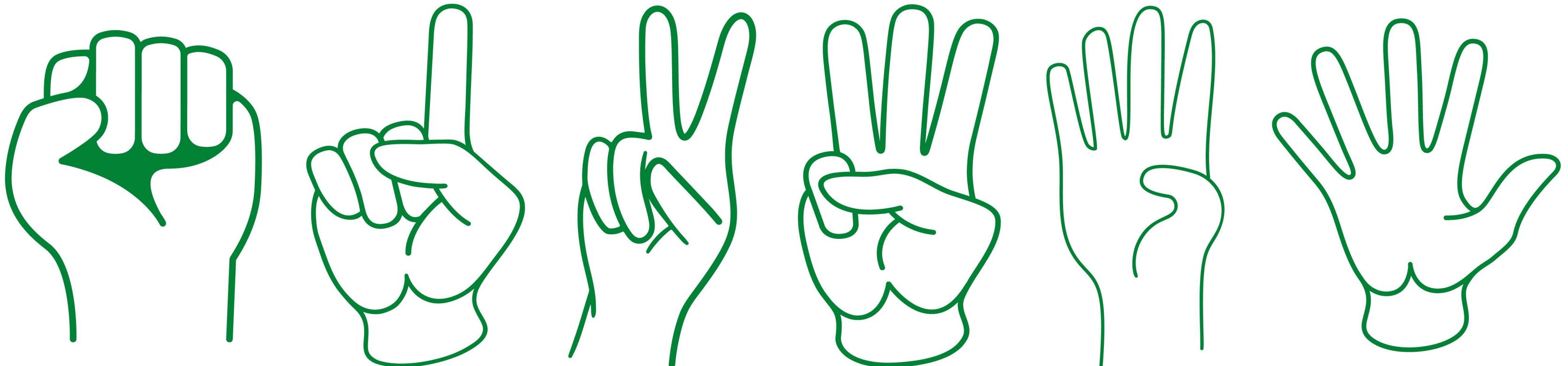
Agenda
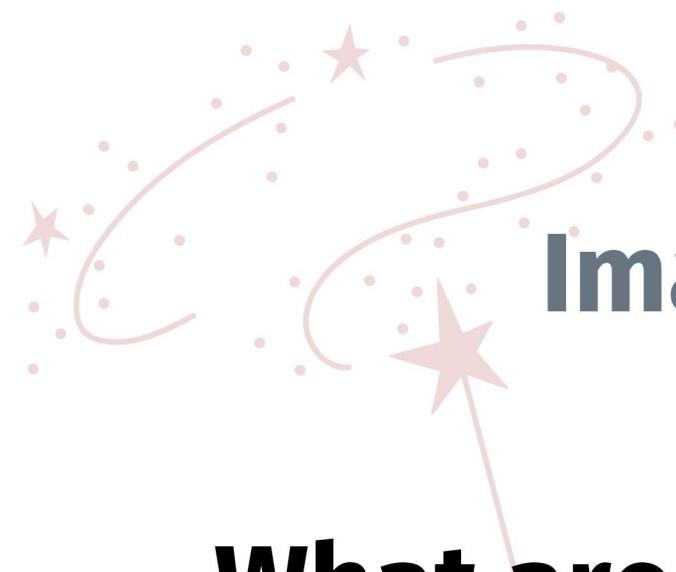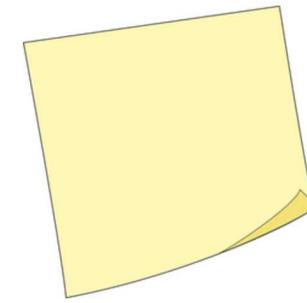
Hi 👋

Close your eyes, take a second raise your hand answering the question: How comfortable do you feel diagramming your systems?

Answer this in a sticky note

Imagine today you learn exactly what you need.

What are things you want to understand about your systems?
(1 idea per sticky note)

Andrea Magnorsky
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About Andrea

Programmer and Creator of Bytesize Architecture Sessions

- Programming in the industry since 2001
- Co-founded PC & Console Games Company in Ireland
- Contracting and Consulting since 2018
  - E-Commerce
  - Broadcasting media
  - Finance
  - Scaleups
- Moved to Aotearoa, NZ in 2024

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You ship what is in your programmers' brains.

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"It's not the domain experts knowledge that goes into production, it's the assumption of the developers that goes into production."

······················

Alberto Brandolini - 2019*

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Knowledge workers are workers whose main capital is knowledge. These are workers whose job is to "*think for a living*".

Source: Thinking For A Living: How to Get Better Performance and Results From Knowledge Workers. Davenport, Thomas H. (2005).

Knowledge Stock

is the **store** of knowledge you have developed or can access.

...each pile represents a person's knowledge

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Knowledge Flow

... the lines represent knowledge sharing in ways that change the system

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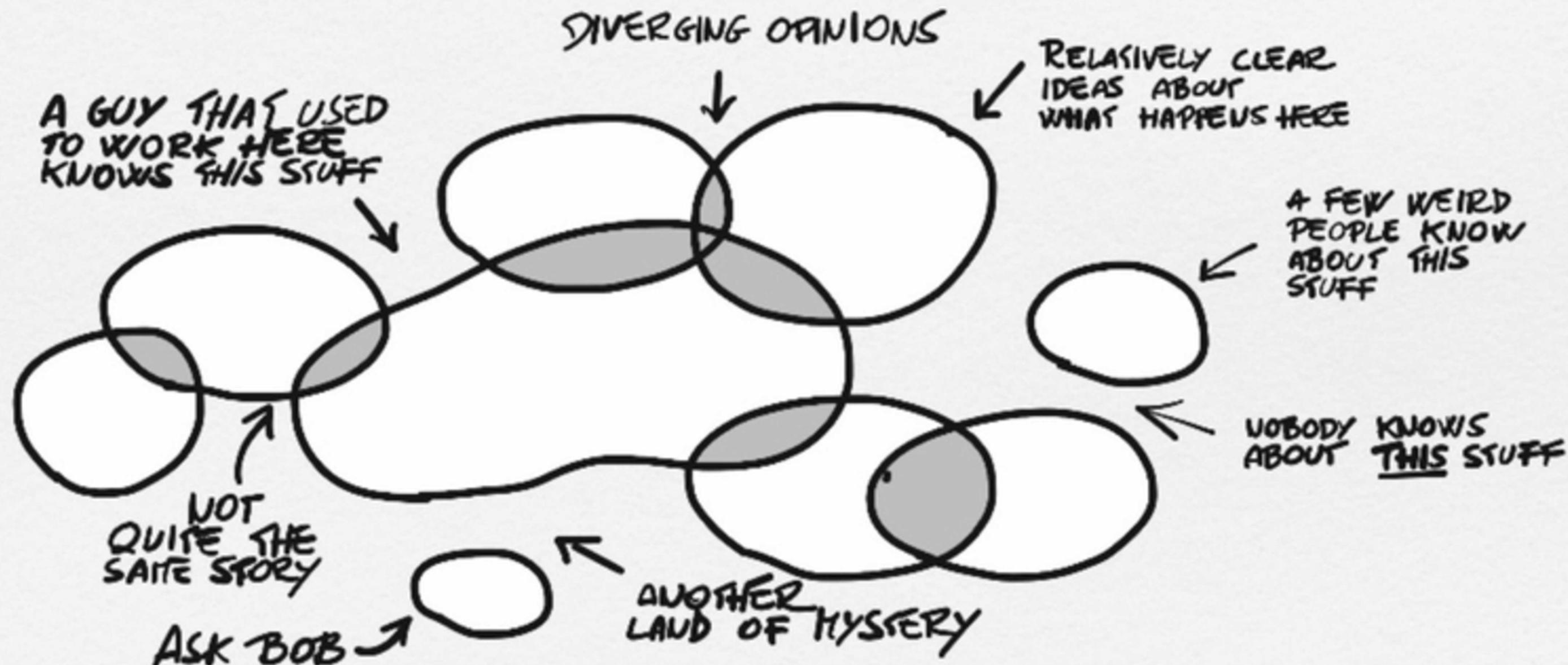
"Knowledge transfer among employees is thought to be a **crucial determinant** of an organisation's capacity to utilise new knowledge and **innovate**."

Liao et al., 2007

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The way the knowledge is distributed during workshops.
Source: Presentation by A. Brandolini
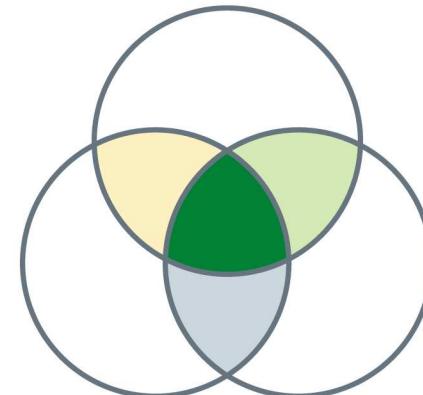
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# Added difficulty

- Changing teams
- Coordination between teams
- Conflicting long term plans

- Power
- Role dependent information variance

♫Musicats 🐱

- **Confirm you have the company description on your table**
- **Await instructions**

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1. Set the Goal
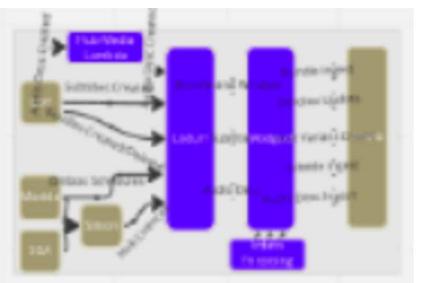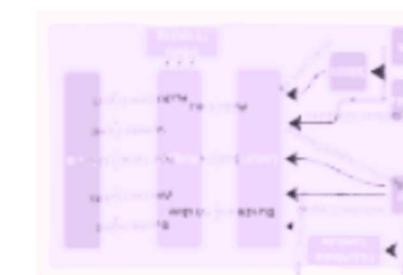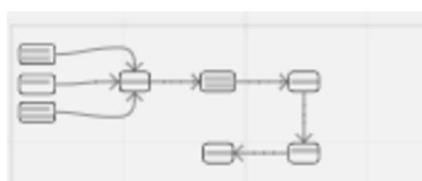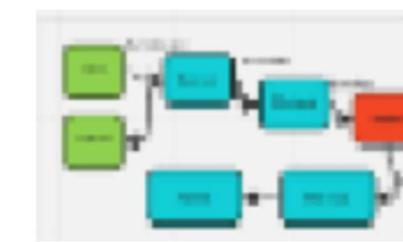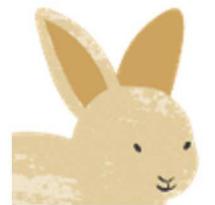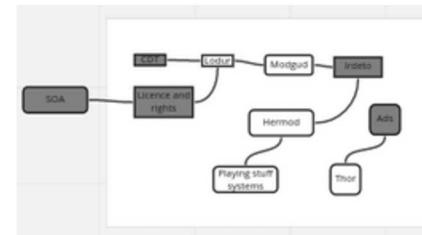
Understand how the company works.
**Prepare some questions for Catherine Musi** (1 question per sticky)
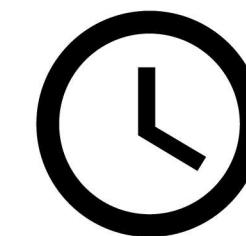
2. Alone Together

Work alone and silently unitl the timer elapses
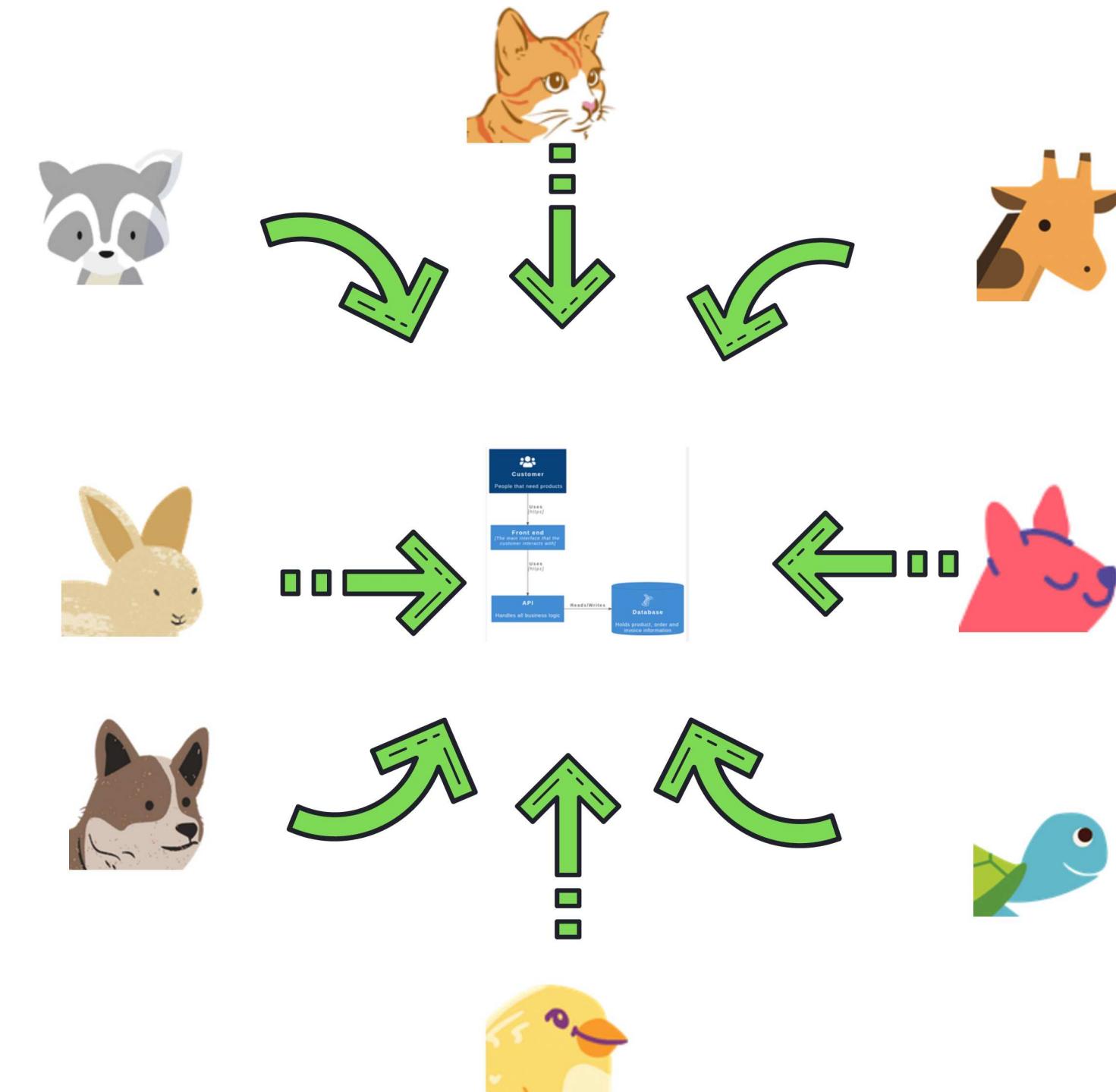
After the timer elapses each attendee explains their understanding and shares questions un-interrupted

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3. Bring it together

Discuss and collect
all questions

🎵Musicats 🐱:
Interview Catherine Musi

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Modelling with C4

What is C4

It's a framework for visualising software architecture in a hierarchal manner, using 4 layers:

1 Context

A high-level overview of the entire **system** and how it interacts with external entities.

2 Containers

View of the system broken down into its **containers** (e.g. database, application), and the relationship between them.

3 Components

The internal **components** that make up each container and the relationship between each of them.

4 Code
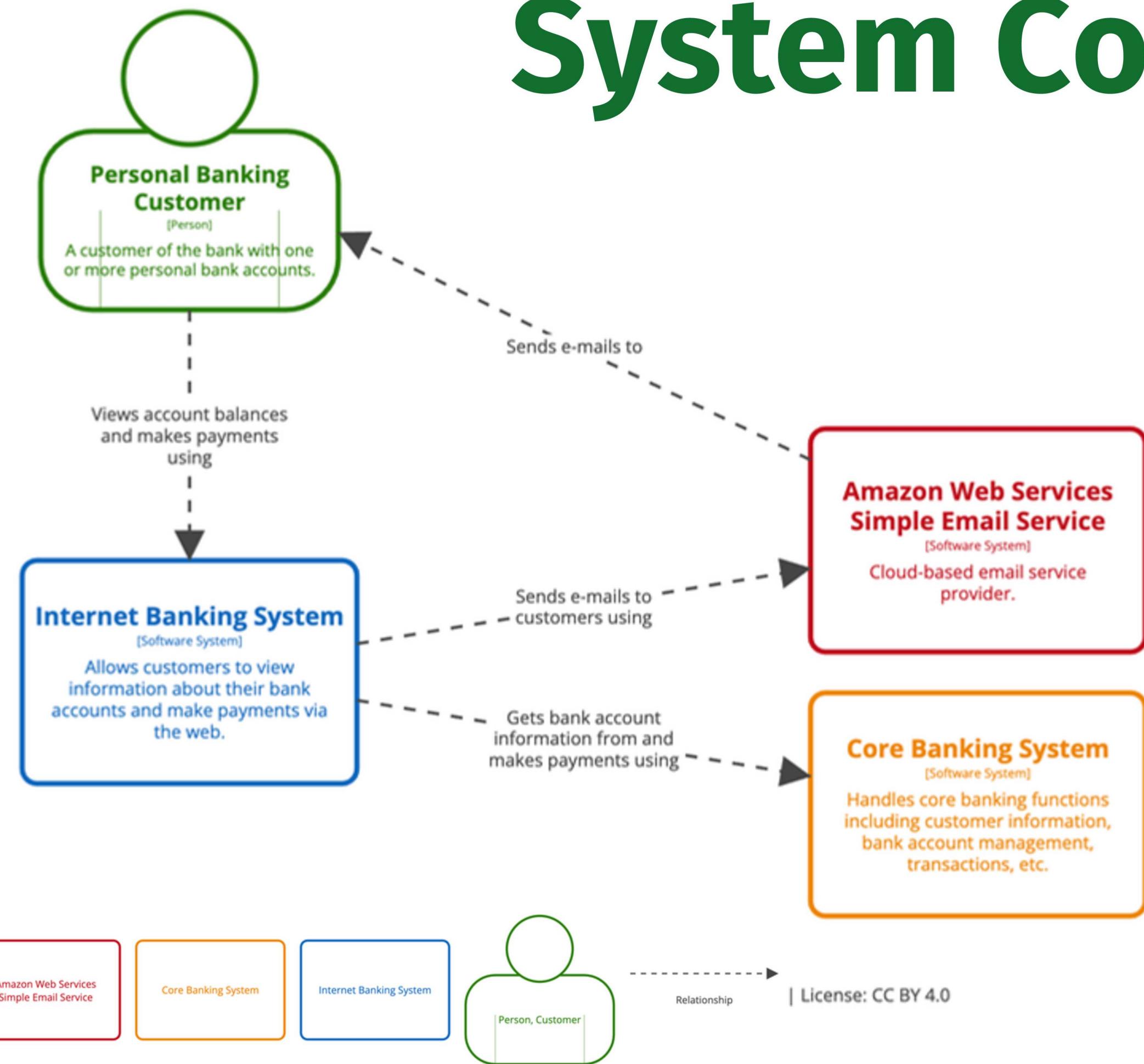
How a component is implemented at the **code** level (e.g. classes, methods, functions).

(Source: Diagram adapted from Alex Pilutau, packagemain.tech)

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System Context

- **What is the scope of the system?**
- **Who is using it?**
- **What Integrations are supported**

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System Context for Musicats
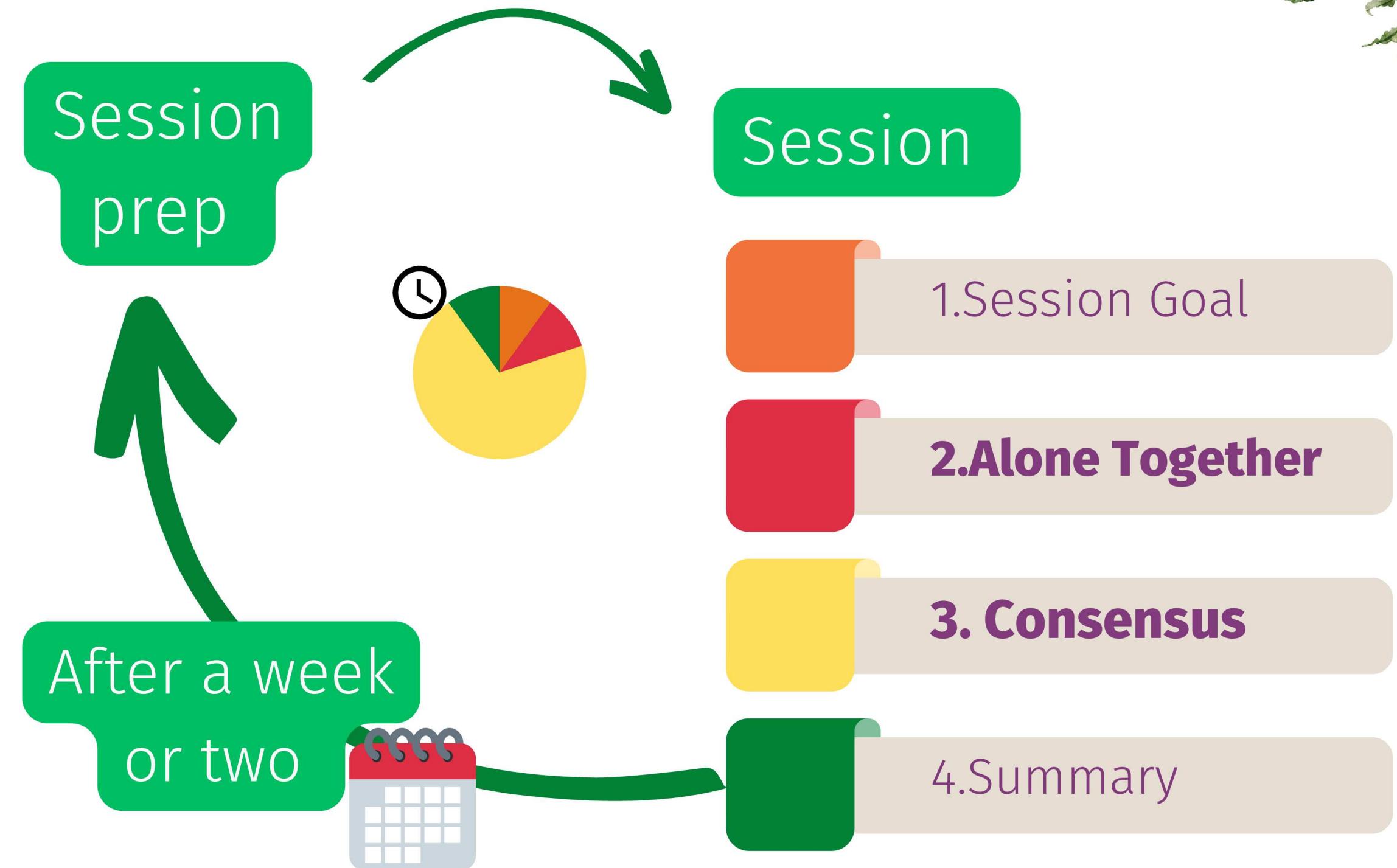
Create a diagram that explains how this system is put together. Do a Systems Context diagram

Imagine you are part of Musicats, a company that is up and running. What does it currently look like?
Technology choices are whatever you think they might have implemented.

Format

Session prep

Session

After a week or two

1.Session Goal

2.Alone Together

3. Consensus

4.Summary

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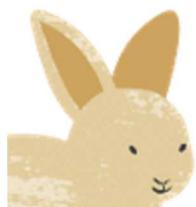
Before the Session

1. **Invite the team.**
2. **Teach the team about modelling tool used**

1. Goal
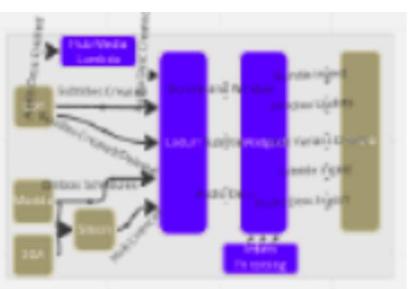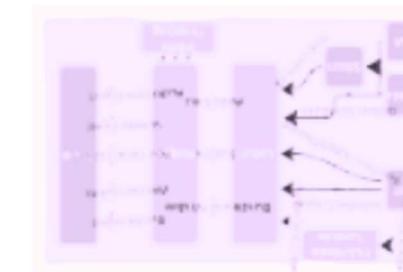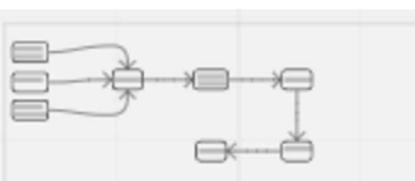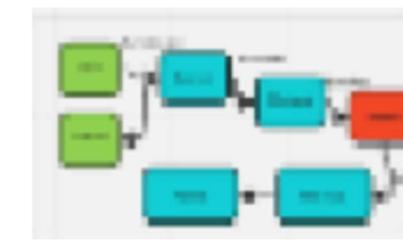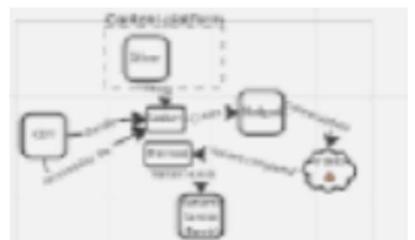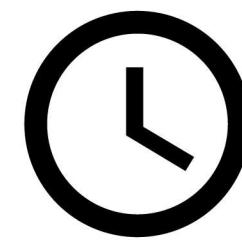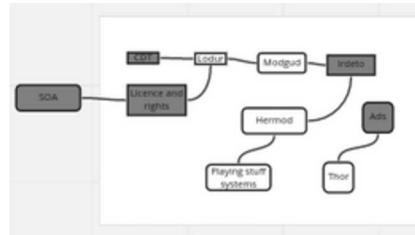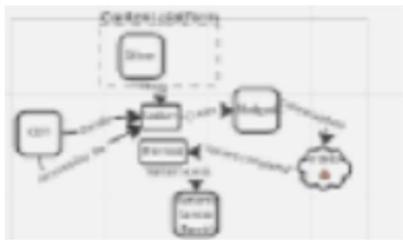
Set the goal:
Create a context
diagram of the
system as it is.

2. Alone Together
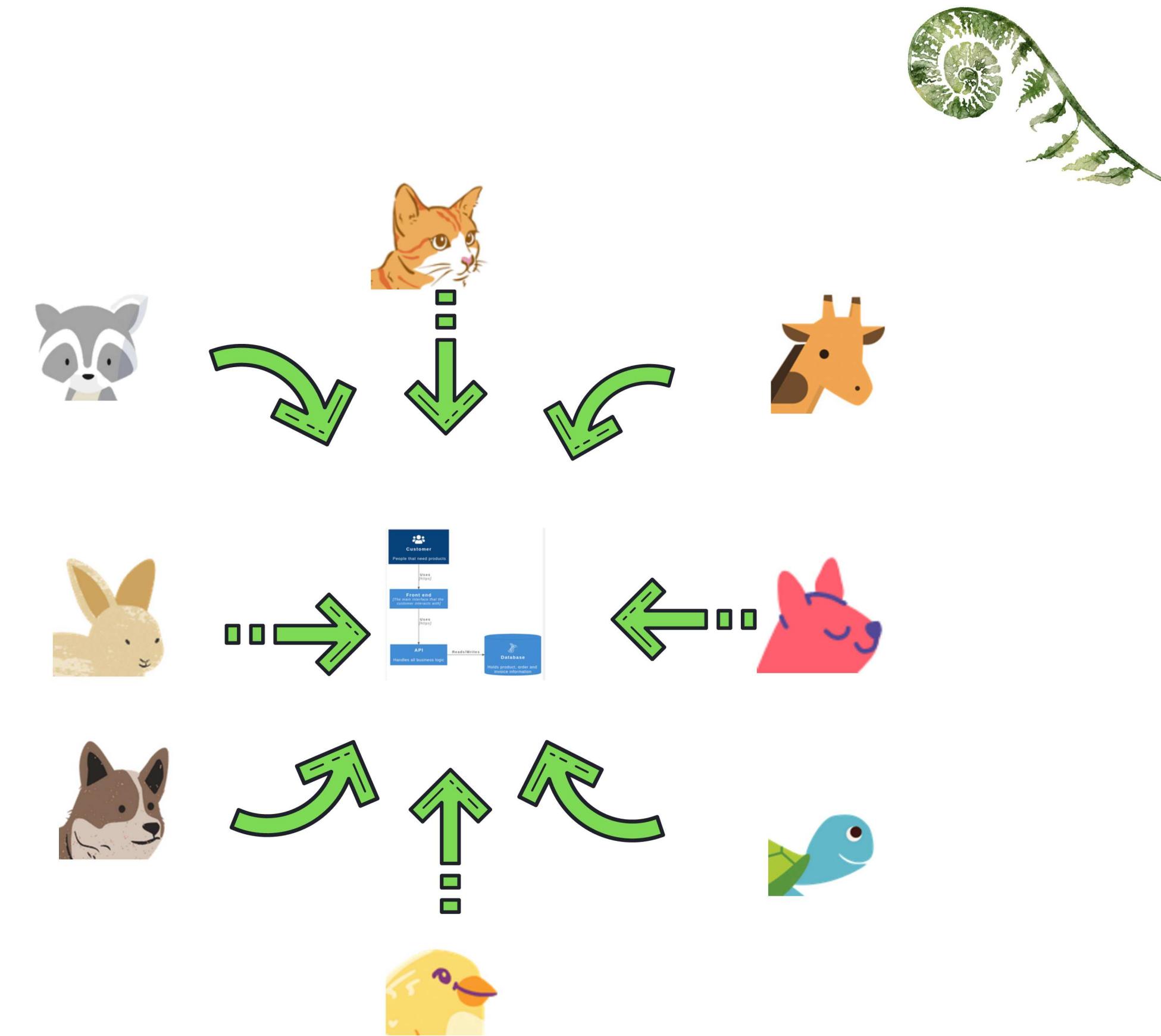
When the timer for 5 minutes elapses each attendee explains their model.

3. Consensus

This is about working together to see where you get to, not about forcing consensus.

End session on time.

4. Summary
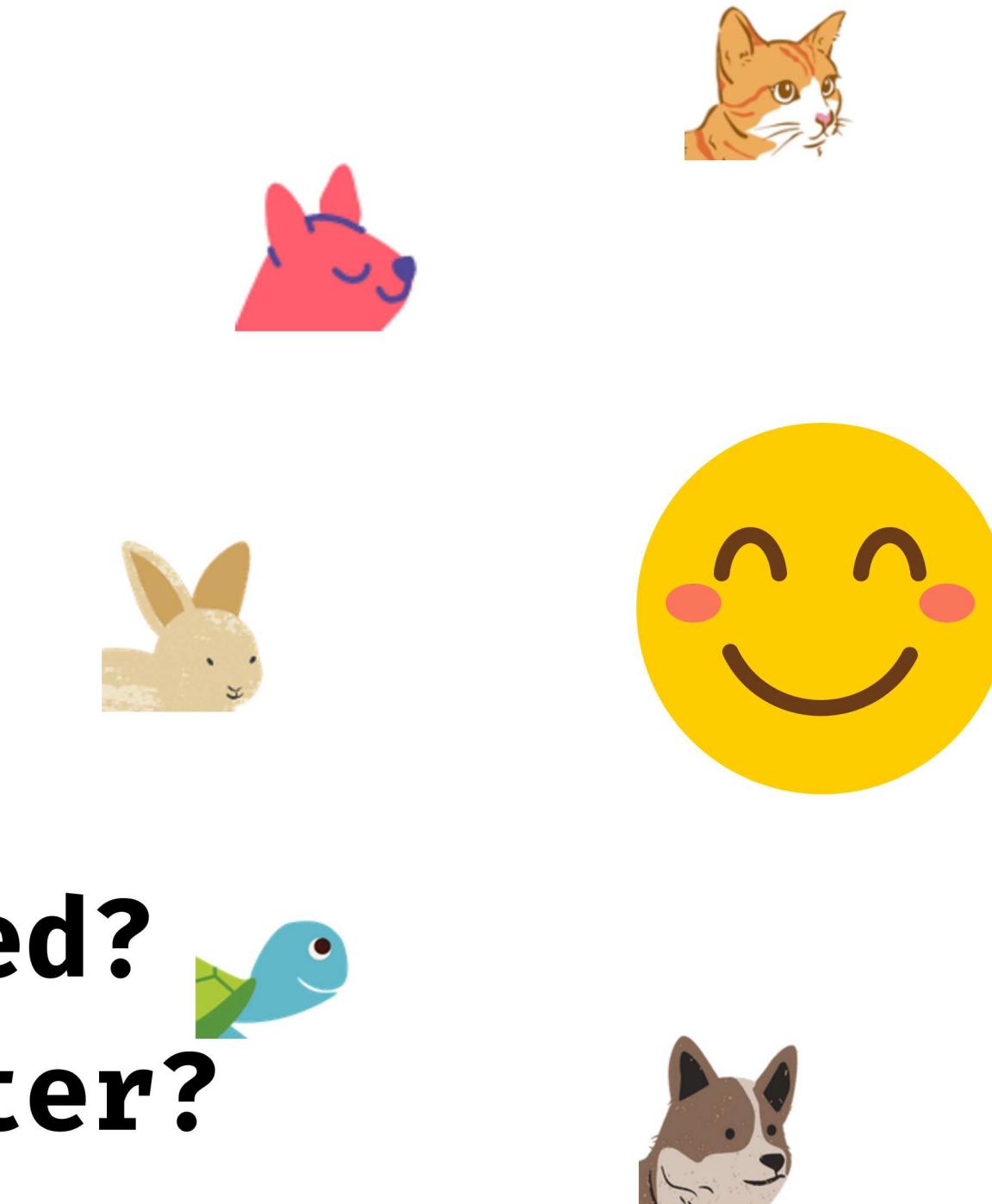
Mini retro.
Use sticky notes
- prompts:
  • How did it go?
  • What have you learned?
  • How could it be better?

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Done!

Bytesize Architecture Sessions[T] is a workshop format

....

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Why run Bytesize Sessions?

1

Knowledge about your systems build together

2

Enabling format

3

Creates design tools

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Build <u>systems</u> in a safe way

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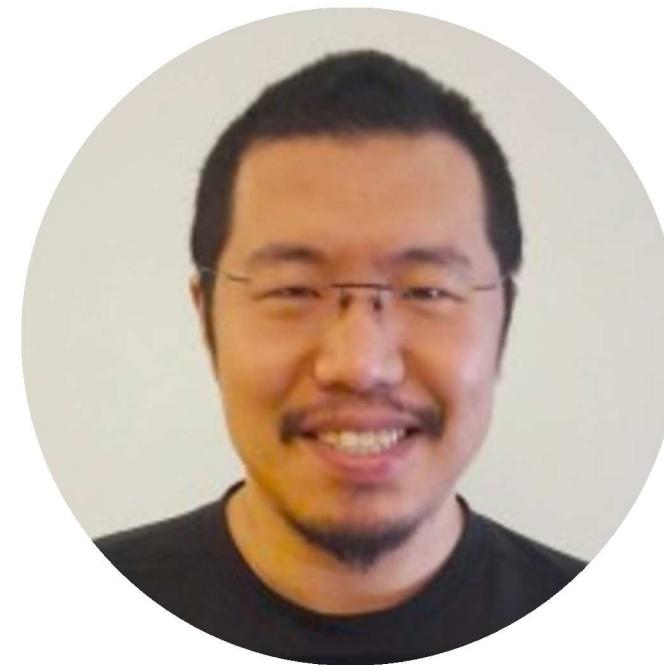
"A system is not the sum of its parts, it's their interactions"

Russ Ackoff
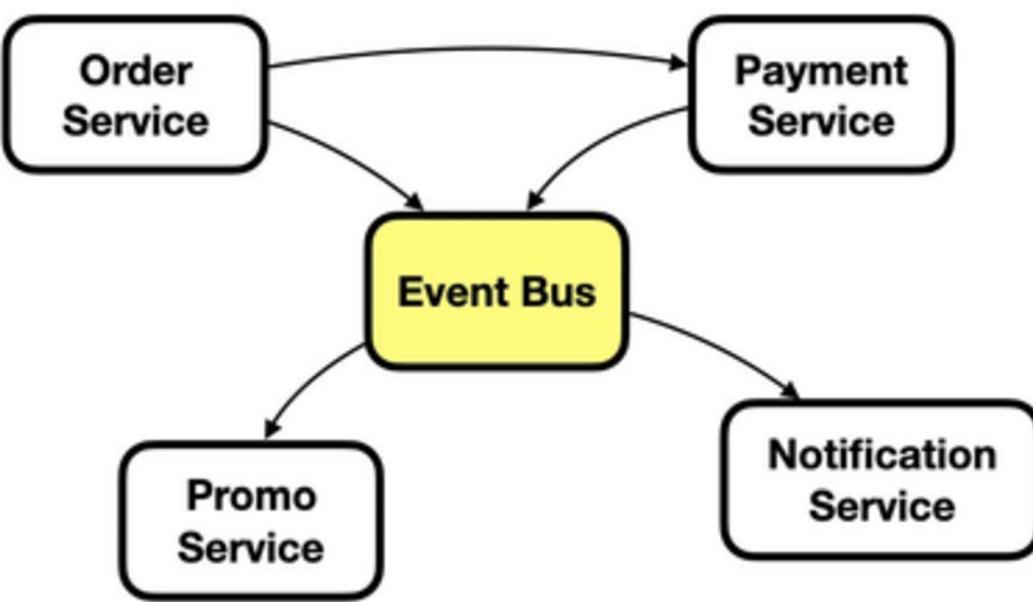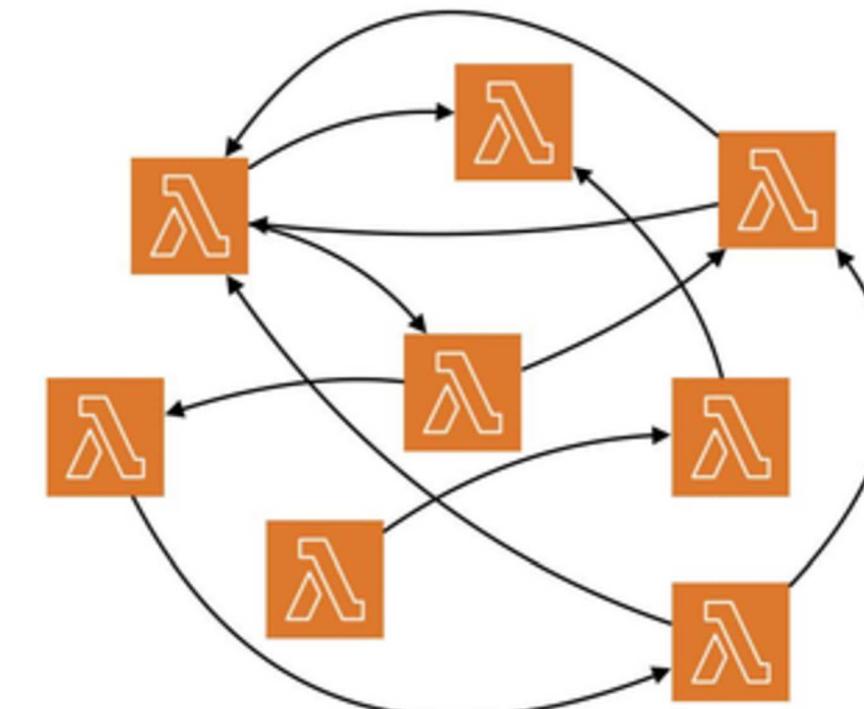
Think in Systems. **Not functions.**

Yan Cui

Yan Cui

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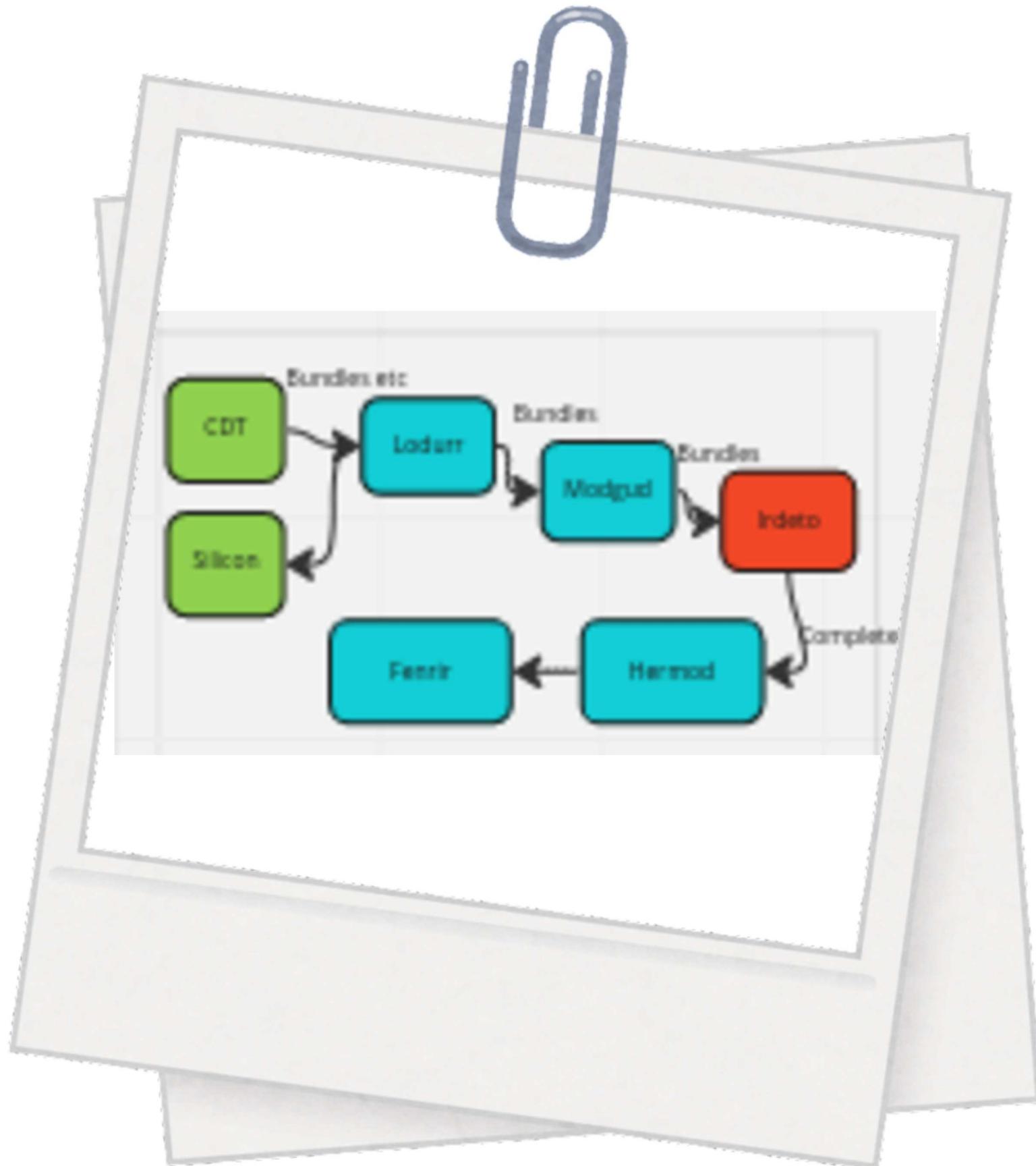
Source: https://www.linkedin.com/posts/theburningmonk_aws-serverless-systemdesign-activity-7309953329252454401-20pU
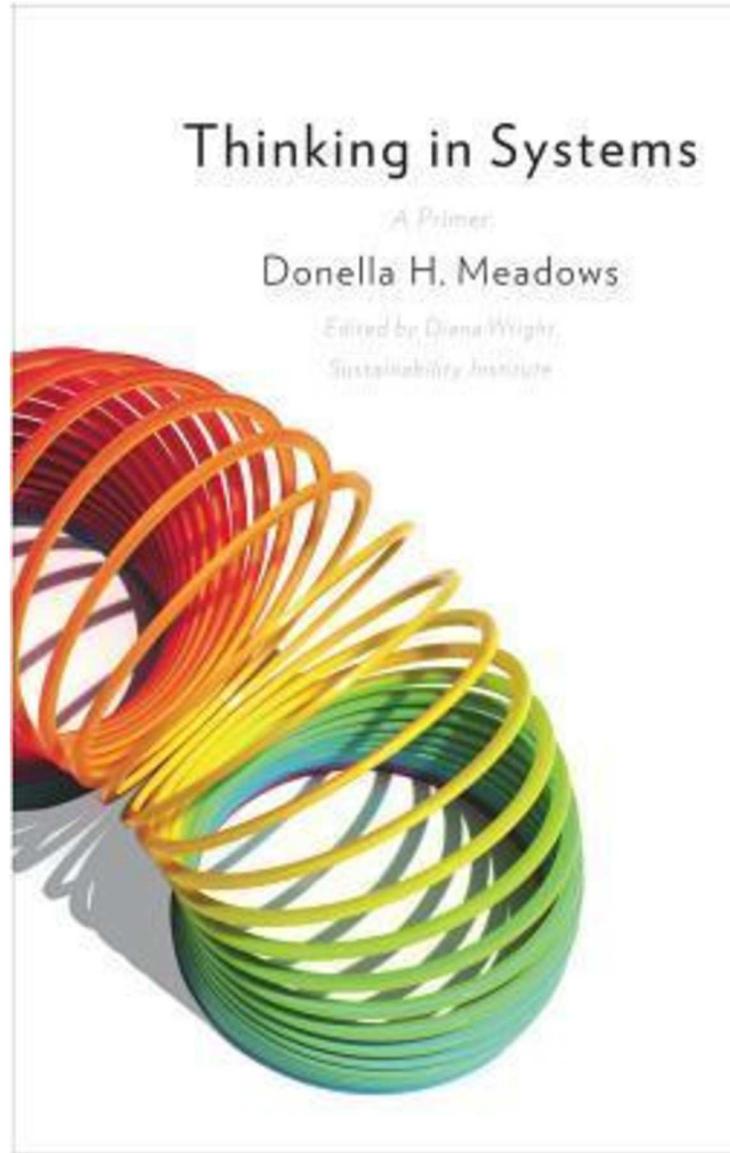
Modelling is difficult

The product of a modelling session is understanding

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Diagrams are a memento of a model

And it needs some fidelity

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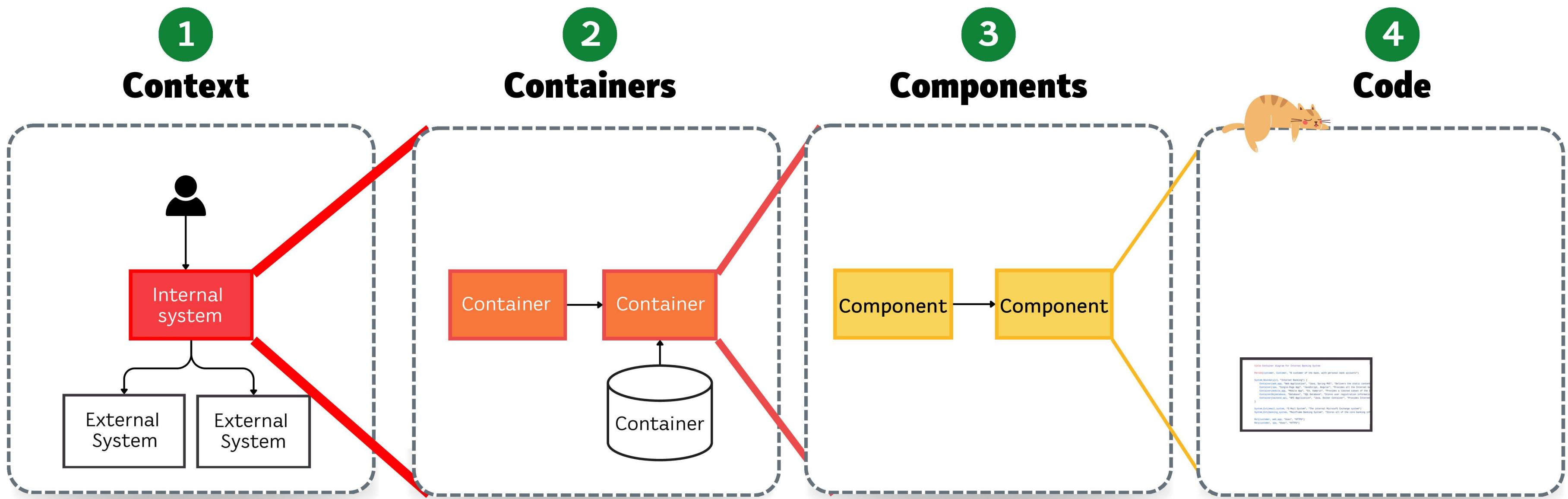
"Words and sentences must, by necessity, come only one at a time in linear, logical order. **Systems happen all at once**. They are connected not just in one direction, but in many directions simultaneously."

·················

Thinking in Systems: A Primer by Donella H. Meadows

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The rest of C4

It's a framework for visualising software architecture in a hierarchal manner, using 4 layers:

1 **Context**

**2** **Containers**

3 **Components**

4 **Code**

A high-level overview of the entire **system** and how it interacts with external entities.
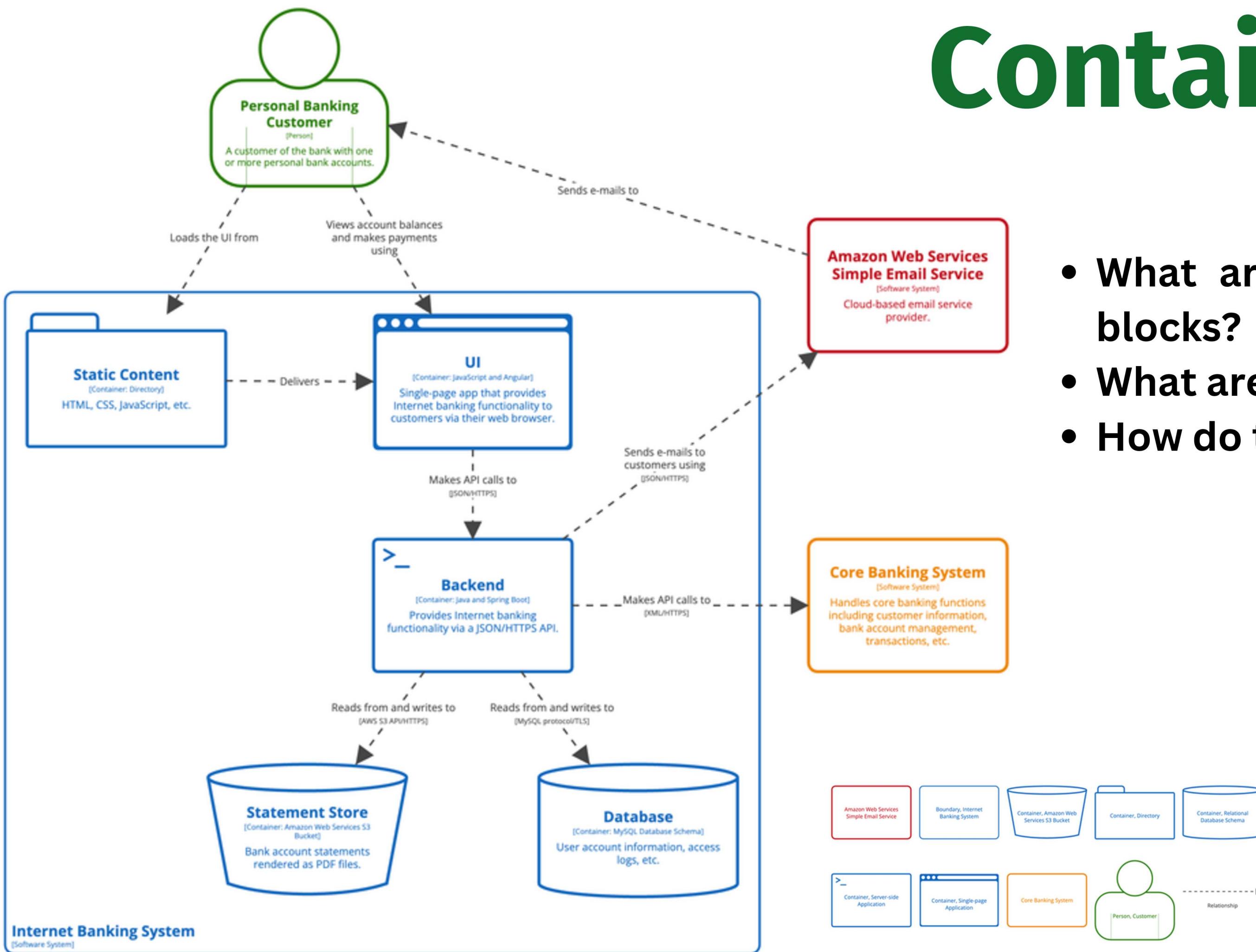
View of the system broken down into its **containers** (e.g. database, application), and the relationship between them.

The internal **components** that make up each container and the relationship between each of them.

How a component is implemented at the **code** level (e.g. classes, methods, functions).

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(Source: Diagram adapted from Alex Pilutau, packagemain.tech)
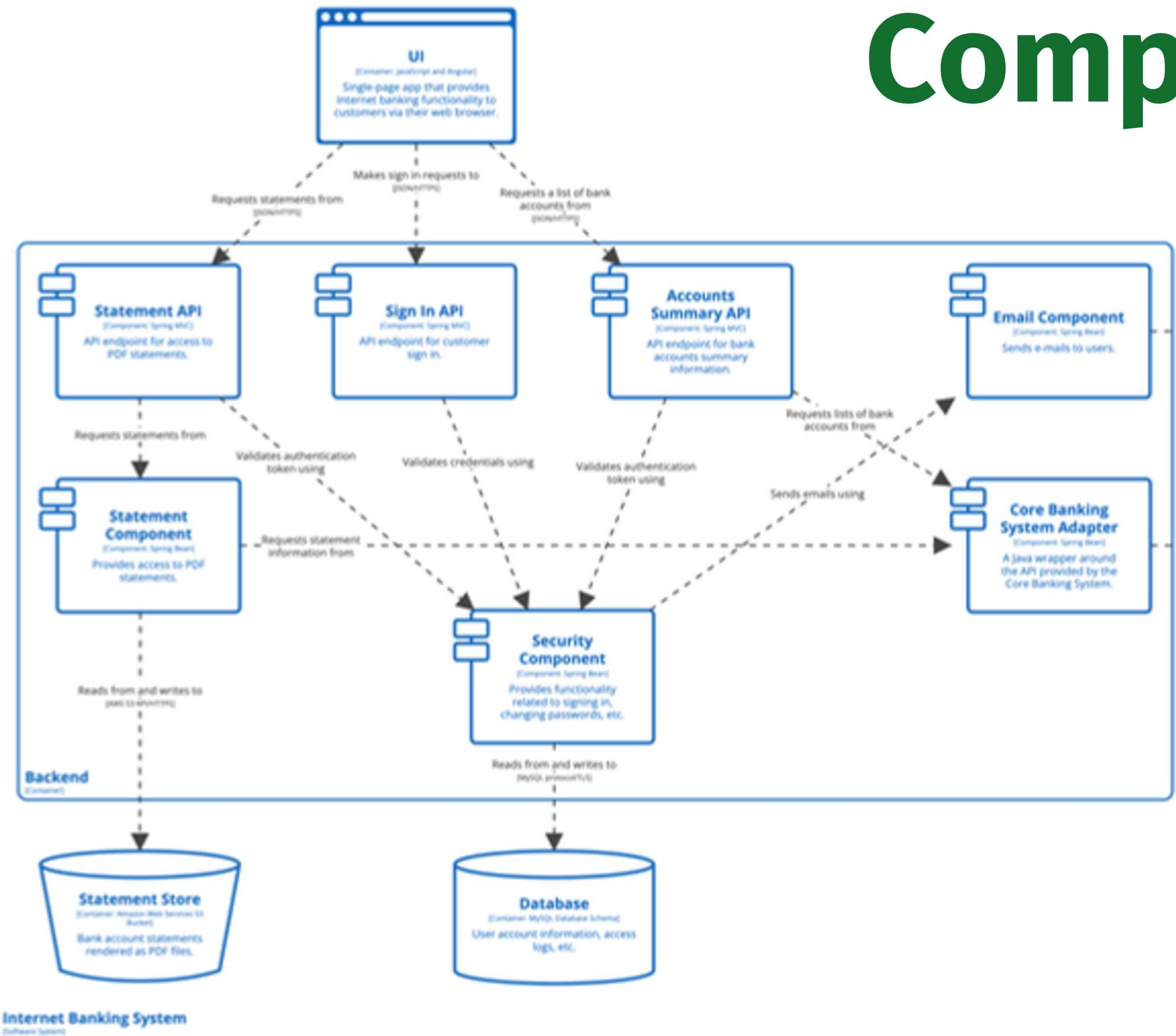
Containers

- **What are the major building blocks?**
- **What are their responsibilities**
- **How do they communicate?**
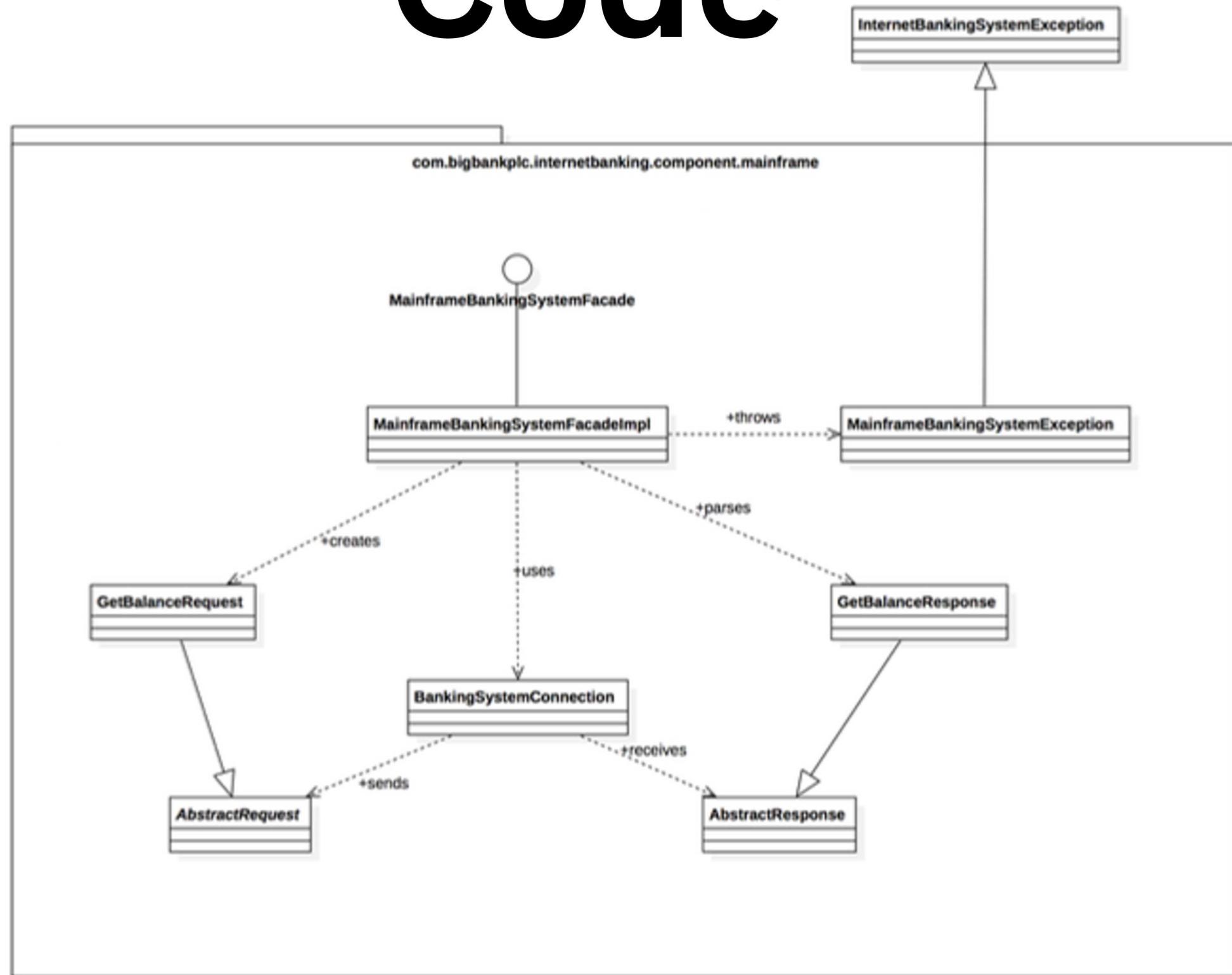
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Components

Code*

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*Generate this one

Resources

Thinking in Systems
A Primer
Donella H. Meadows
Edited by Diana Wright
Sustainability Institute

O'REILLY
Learning
Systems Thinking
Essential Nonlinear Skills and Practices
for Software Professionals
Diana Montalion

Collaborative
Software
Design
How to facilitate domain modeling decisions
Evelyn van Kelle
Gien Verschatse
Kenny Baas-Schwegler
MANNING

Architecture
Modernization
Socio-technical alignment of software, strategy, and structure
Nick Tune
with Jean-Georges Perrin
MANNING

O'REILLY
Communication
Patterns
A Guide for Developers
and Architects
Jacqui Read

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Thank You!

Questions?

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More LAST

Feedback

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